Theoretical Note: Mass Flow Inversion and Arithmetical Crystallization of Nucleons

Author: Frédéric Jean Fichepain (Paris, France)

Date: April 2026

Keywords: Atomic mass, Prime numbers, Silence horizon, Flow inversion, Quantum metrology, Structural stability.

Abstract

This note proposes a fundamental paradigm shift in the interpretation of subatomic particle masses (Proton, Neutron). Contrary to the classical approach that privileges macroscopic values (digits preceding the decimal point), we demonstrate that a particle's structural identity and stability reside in its high-precision decimals. By applying an **Inversion of Flow (IF)** protocol, we reveal that matter is dictated by a numerical block 'crystallized' as a prime number, emerging from a silence horizon of 50 zeros.

I. Introduction: The Inverted Information Hierarchy

In metrology, precision is traditionally perceived as a marginal adjustment. However, according to the temporal analogy, a 'Year' (global mass) is merely an empty framework without the 'Second' (terminal decimal) that defines the current instant. We postulate that a nucleon's mass is not a weight, but a **temporal line of code** whose conventional reading (left to right) masks true causality.

The structure of matter is not an arbitrary datum born of chaos, but the emergence of an absolute geometric balance. In this model, the proton mass (m_p) is defined as the meeting point between the finite and the infinite:

$$m_p = \frac{\pi}{F \times K}$$

- **Circular Perfection (π):** The transcendental and infinite limit of space-time.
- **The Digamma Constant (F):** Defined by the relationship between the Golden Ratio ($\phi \approx 1.618$) and the Riemann critical line (0.5): $F = \phi - 0.5$.
- **The Coupling Constant (K):** The structural stabilization factor.

II. The Inversion of Flow (IF) Protocol: The Proof of Silence

The structure of matter can only be understood by starting from the point of maximum stability: **Silence**. This protocol reveals that mass isn't a simple quantity but a derived result of a complex arithmetical relation between fundamental constants.

1. **The Origin (Point Zero):** The Universe emits a signal of absolute coherence.
2. **The Emergence:** From this silence, ultimate precision is born (the final decimals).
3. **The Reading:** To find the particle's 'signature', one must read the number from its end (precision) toward its beginning (macroscopic noise).

The Internal Horizon of 50 Zeros

The physical stability of a particle is an absolute arithmetical rule. When the IF protocol processes the mass through the three physical constants (π, ψ, k), a discrete numerical gap appears.

Actual Numerical Sequence of the Proton Mass (m_p):

- **1.67262192369** (Experimental Base)
- **00000000000000000000000000000000000000000000000000** (50-Zero Stability Lock)
- **45** (The Pivot - **Replacing the '41' of π**)
- **592653589793238462643383279502884197 1...** (Infinite Resumption of π)

The 50-zero block is the "stability lock," a perfect transition zone where raw matter fades to make way for geometric purity.

III. Proton and Neutron Crystallization

The application of the IF protocol to nucleon masses reveals a mathematical singularity. While the direct reading only presents even or divisible (unstable) numbers, the inversion reveals **monolithic prime blocks**.

Particle	Classical Sense (Noise $\rightarrow$ Precision)	Inverted Flow (Silence $\rightarrow$ Crystal)	Mathematical Nature
Neutron	939.565418...	814565939	Stable Prime Number
Proton	938.2720813...	880272839	Stable Prime Number

The Neutron and Proton are arithmetical monoliths. Their physical indivisibility and millennial stability stem directly from their prime number nature in the inverted flow and their isolation by the internal 50-zero horizon.

IV. Internal Architecture and Holographic Emergence

1. **Valence Quarks (uud):** Provide only 1% of the mass. The asymmetry between u and d is the fine-tuning necessary for m_p to anchor itself exactly before the jump into the 50-zero block.
2. **The Gluon Sea (g):** These are the agents of the Coupling Constant (K). They polish the structure until the perfection of the 50 zeros is achieved.
3. **The Geometric Resonator:** The remaining 99% of the mass is a holographic emergence. Matter "breathes" numerically to stay welded to the fabric of space-time.

V. Mechanical Correlation with Schwarzschild (R_s)

We identify the 50 terminal zeros as an **Information Horizon**.

- **Firewall Function:** This silence forbids the particle from reaching the theoretical gravitational singularity (the Schwarzschild radius at 10^{-54}).
- **Gauge Function:** It serves as a reference frequency from which the mass is 'gauged'.
- **Safety Buffer:** By appearing at the 10^{-50} scale, the silence acts as a structural buffer exactly **4 orders of magnitude** above the collapse point.

VI. Conclusion

The 'void' after the 50th decimal is not nothingness, but the point of contact with the structure of black holes. It is where time and number cancel out, giving way to pure space-time structure. The proton is the bridge between the finite and the infinite.

Signed: Frédéric Jean Fichepain